

REMARKS

Claim 38 is amended, and claims 38-52 are pending in the application.

Claims 38-52 stand rejected over Hunt '506, in view of Dunlop (claims 38-43) and further in view of Hunt '830 (claims 44-52).

Applicant has amended claim 38, and believes the amended claim is allowable over the cited references. Amended claim 38 recites a physical vapor deposition target construction comprising a physical vapor deposition target consisting essentially of high purity aluminum material, an aluminum-containing backing plate, and a diffusion bond between the target and backing plate. The claim further recites that a predominate portion of the grains of the target material are less than 100 microns in maximum dimension. The amendment to the claim adds a recitation that the construction is formed utilizing a process comprising subjecting the target material to at least 95% compression and subsequently diffusion bonding the target material to the backing plate under conditions which include a temperature of from 300°C to 340°C and a pressure of from about 10,000 psi to about 16,000 psi, with such conditions being maintained for a time of from about 15 minutes to about 1 hour. The amendments to claim 38 are supported by the originally-filed application at, for example, page 7, lines 3-6 (discussing the compression of 95%), and page 9, lines 10-20 (discussing the temperature and pressure conditions utilized for the recited diffusion bonding). The amendments to claim 38 therefore do not comprise "new matter".

Amended claim 38 is believed allowable over the cited references for at least the reason that there is no suggestion or disclosure in the cited references of a physical vapor deposition target construction having the recited properties of a diffusion bond between a

target consisting essentially of high purity aluminum material and an aluminum-containing backing plate, while a predominate portion of the grains of target material are less than 100 microns in maximum dimension, and with such target being formed utilizing a process in which the target material is subjected to at least 95% compression, and thereafter is diffusion bonded to the backing plate under recited temperature and pressure conditions for a recited time.

The Examiner recognizes that none of the cited references individually suggests or discloses a diffusion bond between a target consisting essentially of high purity aluminum material and an aluminum-containing backing plate, and further wherein a predominate portion of the grains of the target material are less than 100 microns in maximum dimension. However, the Examiner contends that Dunlop discloses high purity aluminum materials having a grain sizes significantly less than 100 microns in maximum dimension, that Hunt '506 discloses a diffusion bonding process, and that it would be obvious that if the materials of Dunlop were utilized in the diffusion bonding process of Hunt '506, a target construction having the claim 38 recited properties would result.

Without admission as to the propriety of the Examiner's position, Applicant has amended claim 38 to specify that the recited target construction is formed by a process in which target material is first subjected to a high compression (at least 95% compression), and thereafter it is diffusion bonded to a backing plate. The Examiner's cited references do not suggest or disclose any process in which a target material is subjected to the recited high compression prior to diffusion bonding the target material to a backing plate. The references certainly do not disclose or suggest the claim 38 recited subsection of a target consisting essentially of high purity aluminum material to high compression prior to

diffusion bonding the target to a backing plate under the claim 38 recited conditions to form a construction in which a predominate portion of the grains of the target material are less than 100 microns in maximum dimension. Claim 38 is therefore believed allowable over the examiners' cited references, and Applicant requests such allowance in the Examiner's next action.

Claims 39-52 depend from claim 38, and are therefore allowable for at least the reasons discussed above regarding claim 38.

Claims 38-52 are allowable for the reasons discussed above, and Applicant therefore requests formal allowance of claims 38-52 in the Examiner's next action.

Respectfully submitted,

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By: 

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